

**REMARKS**

Claims 1-14 are pending. Claims 2, 4, 10, 13, and 14 stand objected. Claims 1-14 stand rejected. Claims 1, 10, 11, 13, and 14 have been amended. Claim 2 has been canceled without prejudice or disclaimer. Claims 1 and 11 are independent claims.

Claims 2 and 13 stand objected for reciting “the optical fiber cable has a diameter substantially less than 3.0 mm.” Applicant submits that claims 3 and 13, but not claim 2, recite such a feature. Accordingly, applicant assumes that objection is directed toward claims 3 and 13. Claims 4 and 14 stand objected for reciting “the optical fiber cable has a weight substantially less than 10 kg/km.”

Applicant respectfully traverses the objection, for the term “substantially” does not render claims 3, 4, 13, and 14 unclear. The United States Court of Appeals for the Federal Circuit has stated that “the term ‘substantial’ is a **meaningful modifier implying ‘approximate,’** rather than ‘perfect’” (*Liquid Dynamics v. Vaughan Co. Inc.*, 355 F.3d 1361, 1368 (Fed. Cir. 2004)) (emphasis added). It is used “when warranted by the nature of the invention, in order to accommodate the minor variation that may be appropriate to secure the invention” (*Verve, LLC, v. Crane Cams, Inc.*, 311 F.3d 1116, 1120, 65 USPQ2d 1051 (Fed. Cir. 2002)). It does not “impose a precise numeric constraint” unless something in the prosecution history imposes the “clear and unmistakable disclaimer” (*Playtex Products, Inc., v. Proctor Gamble Co.*, 400 F.3d 901, 908, 73 USPQ2d 2010 (Fed. Cir. 2005) (citing *Cordis Corp. v. Medtronic Ave, Inc.*, 339 F.3d 1352 (Fed. Cir. 2003))). Accordingly, the usage of the term may well “satisfy the charge to ‘particularly point out and distinctively claim’ the invention” (*Verve*, at 1120), especially when the term is used in conjunction with the specification and general knowledge available to a person in the field of the invention (See *id.*, at 1119-1120 (rejecting the district court’s ruling of limiting the meaning of the term

“substantially” to the intrinsic evidence of the specification)).

Applicant respectfully submits that the term “substantially” is used in claims 3 and 4 to modify the diameter of the optical cable to be approximately 3.0 mm or less and the weight to be approximately 10 kg/km or less, respectively (See page 6, line 16-19). In addition, the term “substantially” is used in claims 13 and 14, as amended, to modify the diameter of approximately 3.5 mm or less and weight of approximately 15 kg/km or less, respectively (See page 8, line 2-5). Accordingly, applicant submits that the term “substantially,” when interpreted in combination with the specification, does not render claims unclear. As such, applicant respectfully requests withdrawal of the objection.

Claim 10 stands objected for reciting “frame-retardant material.” In response, applicant has amended the claim to remove a typographical error, thus claim 10 now recites “flame-retardant material.” The Office Action further indicates that the claim would be objected if amended to recite “flame-retardant material,” because the degree of retardation of flame is unclear. Applicant believes that the flame-retardant material is clear to a person of ordinary skill in the art to describe a material that delays spread of a flame to any degree. As such, applicant respectfully requests a withdrawal of this objection.

Claims 13 and 14 have been amended to recite “optical fiber cable has a diameter substantially less than 3.5 mm” and “optical fiber cable has a weight substantially less than 15 kg/km,” respectively. Support for such amendments can be found at page 8, line 2-5.

Claim 1 stands rejected under 35 U.S.C. §103(a) as allegedly being obvious over Bonicel *et al.* (U.S. 6,035,087) (“Bonicel”) in view of Hutton *et al.* (U.S. 6,421,487) (“Hutton”).

Claim 1, as amended, recites, *inter alia*, “a plurality of tension members arranged to cover intersection areas between the external circumferential surfaces of the plurality of ribbon optical fibers, defining valleys, and arranged in parallel...” According to the specification, such shaped tension members provide barriers to passage of moisture within the cable (Page 6, line 2-5).

Bonicel, as read by applicant, discloses an optical cable assembled into ribbons inside the cable. It also teaches that the cable may include a reinforcing fiber. However, nowhere does it disclose the shape of the tension members, much less disclose tension members shaped so as to fit and cover the valleys formed by the ribbon bundles.

Hutton, as read by the applicant, discloses plurality of ribbon fiber bundles. It, however, does not disclose tension members capable of fitting and covering the valleys formed by the ribbon bundles. Instead, Hutton discloses circular strength reinforcing rods (Figure 3, 5, 6, and 8). As shown in Hutton’s Figure 3, 5, 6, and 8, the circular geometry of the rods 32, 34, and 38 prevents the rods from covering the surfaces of the valleys (Compare tension members 430 of the present application’s Figure 4 and strength reinforcing rod 32, 34, and 38 of Hutton’s Figure 3, 5, 6, and 8). In particular, the circular rods may touch the valleys, when inserted; however, they do not cover the surfaces (Id.).

Accordingly, applicant submits that Hutton also fails to teach tension members that cover the valleys formed by the ribbon bundles.

Failing to teach all features of claim 1, Bonicel and Hutton, alone or in combination, fail to render claim 1, as amended, obvious.

Claim 11 stands rejected under 35 U.S.C. §103(a) as allegedly being obvious over Bonicel in view of Hutton.

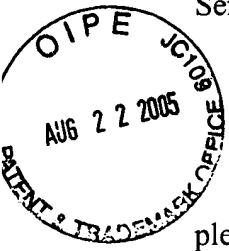
Claim 11, as amended, recite, *inter alia*, “a plurality of substantially semicircular shaped tension members arranged in parallel...” Support for the amendment can be found in Figure 5, which shows such shaped tension members.

Applicant respectfully submits that such substantially semicircular shaped tension members are not disclosed in either Bonicel or Hutton.

As noted above, Bonicel merely discloses that its optical cable may optionally contain a reinforcing member, without specifying the shape of such reinforcing member. Hutton, as noted above, discloses a circular strength reinforcing rods placed between the bundles. Accordingly, both Bonicel and Hutton fail to disclose substantially semicircular shaped tension members, as recited in claim 11. As such, Bonicel and Hutton, alone or in combination, fail to render claim 11 obvious.

Other claims in this application are each dependent on the independent claims 1 and 11 and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested.

Amendment  
Serial No. 10/686,818



Should the Examiner deem that there are any issues which may be best resolved by telephone,  
please contact Applicant's undersigned representative at the number listed below.

Respectfully submitted,

Steve Cha  
Registration No. 44,069

  
By Steve Cha  
Attorney for Applicant  
Registration No. 44,069


*August 19, 2005*

**Mail all correspondence to:**  
Steve Cha, Registration No. 44,069  
Cha & Reiter  
210 Route 4 East, #103  
Paramus, NJ 07652  
Tel: 201-226-9245  
Fax: 201-226-9246

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Steve Cha, Reg. No. 44,069  
(Name of Registered Rep.)

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